

REMARKS

Claims 27-36 and 38-58 are currently pending.

The Claims have been amended for clarification only. The support for the amendment to Claim 27 is found in paragraph 0029 and original Claim 27. The amendment to Claim 34 and new Claim 54 are supported by original Claim 34. New Claims 46-58 have been added to further define Applicant's invention. The support for Claim 46 is found in paragraph 0026. The support for Claims 47 and 48 is found in paragraph 0030. The support for Claims 49 and 50 is found in paragraph 0029. The support for claims 51-53 is found in paragraph 0031. The support for new Claim 55 is found in original Claim 27 and paragraph 0029. The support for each of new Claims 56-58 is found in original Claims 38-40, respectively. It is respectfully submitted that no new matter has been added.

Drawing Objections

New drawing figures 11-14 have been presented in response to the Patent Office's objections to the drawings. New drawing figures 11 and 12 have been provided to illustrate the integrated circuit package 120 (claim 27) with recesses 125 (claim 43), the support member 50 and 80 oriented in parallel to the plane of major extension of the circuit board (claim 32), and the support member forming a permanent part of the circuit structure (claims 33 and 44). New drawing figure 13 has been provided to illustrate the cap is screwed onto the pin (claim 39). New drawing figure 14 has been provided to illustrate unsupported pins entirely enclosed by the stanchion (claim 31). It is respectfully submitted that no new matter has been added.

35 U.S.C. § 112, 2nd Paragraph

Claims 31-34 were rejected as being indefinite by the Patent Office as not indicating what is the plane of major extension. The plane of major extension is the horizontal extension of the circuit board 130 of FIGs. 11 and 12. Claim 31 was also

rejected as lacking antecedent basis. It is believed that the amendment to Claim 31 overcomes this rejection. It is respectfully submitted that no new matter has been added.

35 U.S.C. § 102(b)

The Patent Office rejected Claims 27-30 and 35 under 35 U.S.C. 102(e) as being anticipated by Yacoub.

Applicant's invention relates to reliable placement and durability of signal pins between an integrated circuit package and a circuit board. In an embodiment, a membrane or stanchion is used to retain the signal pins at the appropriate distance from each other for placement. In the same or an alternate embodiment, the signal pin is fluted for high frequency operation.

A claim is anticipated in each and every non-inherent limitation is disclosed by a single reference. MPEP 2131

Claims 27-30 and 35 recite "an integrated circuit package." Yacoub (col. 1, lines 34-42; col. 2, lines 49-43; and col. 3, lines 12-13) discloses an electrical connector. Yacoub mentions integrated circuits (col. 2, line 67, through col. 3, line 3) only as components that may be present on a printed circuit board, but were not shown in the interest of clarity. Electrical connectors, as used by Yacoub, permit signals to be transmitted between the circuit board and an external device. Electrical connectors are not integrated circuits and Yacoub suggests that the electrical connector is other than an integrated circuit. Thus, Yacoub does not anticipate Claims 27-30 and 35. It is respectfully requested that the Patent Office withdraw the 35 U.S.C. 102(e) rejection of these claims.

Claim 30 recites "the support member entirely encloses an area." Yacoub shows a pin hole 108 that is part of the support body 100 and discloses the pinhole as being included as part of the body 100 (col. 2, lines 35-39). Thus, Yacoub does not anticipate Claim 30. It is respectfully requested that the Patent Office withdraw the 35 U.S.C. 102(e) rejection of claim 30 for this additional reason.

35 U.S.C. § 103(a)

The Patent Office rejected Claims 36, 38, 42, and 45 under 35 U.S.C. 103(a) as being unpatentable over Yacoub in view of Crane, Jr.

When applying 35 U.S.C. 103, the following tenets of patent law must be adhered to: (A) the claimed invention must be considered as a whole; (B) the references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination; (C) the references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and (D) reasonable expectation of success is the standard with which obviousness is determined. *See MPEP § 2141 and Hodosh v. Block Drug Co., Inc.*, 786 F.2d 1136, 1143 n.5, 220 USPQ 182, 187 n.5 (Fed. Cir. 1986).

Yacoub is directed to an electrical connector and not the attachment of an integrated circuit to a circuit board through signal pins which either are supported by a support member or are fluted. Crane is directed to electrical connectors and not to the electrical connection of integrated circuit packages to a circuit board. Thus, Claims 36, 38, 42, and 45 are not made obvious by the combination of Yacoub and Crane.

The Patent Office rejected Claims 39-41 under 35 U.S.C. 103(a) as being unpatentable over Yacoub in view of Crane, Jr. and further in view of Murdock.

Claims 39-41 recite “the cap is screwed onto the at least one signal pin.” The Patent Office asserted that Yacoub teaches a conductive cap 118, 120, 122, 124. Yacoub has no need for an insulating cap. To modify Yacoub or the combination of Yacoub and Crane so that the conductive cap of Yacoub is insulating would destroy the nature of the device of Yacoub. Murdock is directed to adding an insulating part 7 to a contact pin 6 to extinguish electrical arcs. Because Yacoub is not concerned with electrical arcs, one of ordinary skill would not look to Murdock. Thus, Claims 39-41 are allowable over the prior art of record.

Furthermore, Claim 41 recites “the support member is a permanent, insulating stanchion that supports the signal pin.” Yacoub discloses the body 100 is removable (col. 4, lines 60-63; col. 6, lines 4-6 and 38-41). Thus, Claim 41 is allowable over the prior art for this additional reason.

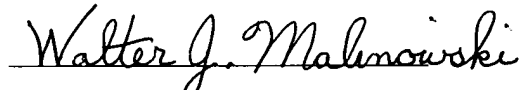
Allowable Subject Matter

The Patent Office is thanked for the indication of allowable subject matter in Claims 31, 43, and 44. However, it is believed that all pending claims are allowable.

CONCLUSION

In light of the forgoing amendments and arguments, reconsideration of the claims is hereby requested, and a Notice of Allowance is earnestly solicited.

Respectfully submitted,



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